THE JOURNAL OF NUCLEAR BIOLOGY AND MEDICINE

Volume 20 - No. 4 October-December 1976

Volume 20 - 1976

INDEX OF PAPERS - SUBJECT INDEX AUTHORS INDEX

EDIZIONI MINERVA MEDICA TORINO

INDEX OF PAPERS

Determination of cortisol capacity in human peripheral plasma using a competitive protein binding technique and gel equilibration with Sephadex G-25, by R. Frajria, A. Angeli, L. Berta, G. Gaidano and F. Agrimonte . pp. 1

An approach by means of mathematical models of the analysis of ferrokinetic data obtained by liquid scintillation counting of ^{59}Fe, by G. Barosi, C. Berzuini, M. Cazzola, P. Colli Franzone, S. Morandi, M. Stefanelli, C. Viganotti and S. Perugini . . . . . » 8

Computer-assisted scanning in the diagnosis of parathyroid adenomas, by F. Banfi and F. Spinelli . . . . . » 23

Acute effect of prednisone on urinary excretion of radiocalcium in man, by A. Caniggia, C. Gennari and A. Vattimo . . . . . » 27

Fission-prdouced ^{99}MO-^{99m}Tc generator system for medical use, by O. P. D. Noronha, A. B. Sewatkar, R. D. Ganatra, C. K. Sivaramakrishnan, A. V. Jadhav, M. V. Ramaniah and H. J. Glenn . . . . . » 32

Radioimmunoassay of aldosterone in crude plasma extracts, by R. Malvano, C. Gandolfi, D. Giannessi, P. Giannotti and P. Grosso . . . . . » 37

Preparation and use of high specific activity ^{123}I-labeled fibrinogen for deep veins thrombi imaging, by L. G. Colombetti . . . . . » 45

A short term triiodothyronine suppression test. Calculation of the best discriminating boundary, by P. Biassoni, V. Balestra, L. R. Garibaldi, O. Ferrini » 49

A cold kit for the preparation of a ^{99m}Tc(Sn) mannonate renal scintigraphic agent, by L. G. Colombetti . . . . . » 55

The effect of tetrahydropterins on oxidative phosphorylation in mitochondria of mice and rats exposed to X-rays or ^{60}Co irradiation, by V. Vanìckovà, K. Slavìk, J. Kraml, A. Kocovskà . . . . . » 60

Left ventricular ejection fraction and volumes evaluation in man by means of ^{113m}In washout curves and precordial counting: a comparison with quantitative cineangiocardiography, by A. Barsotti, M. Mariani, A. Balbarini, R. Mariotti, G. Valli and R. Balocchi . . . . . » 65

Radioimmunoassay of labeled and unlabeled insulin mixtures, by L. Citti, E. Ferrannini, L. Battini, R. Navalesi . . . . . » 75

Accumulation of ^{57}Co-poly-L-lysine by tumors: an effect of the tumor electrical charge, by L. J. Anghileri, M. Heidbreder, R. Mathes . . . . . » 79

Measurement of extravascular lung water *in vivo* by external counting, by F. Fazio, T. Jones, H. Jones, C. G. Rhodes, J. M. B. Hughes . . . . . » 81

A versatile way of instilling ^{99m}Tc-pertechnetate for nuclear dacryocystography, by T. K. Chaudhuri . . . . . » 84

Abstracts of the communications presented at the XV Congress of the Italian Society of Nuclear Biology and Medicine (SIBMN), held in Torino from November 2 through 4, 1975 . . . . . » 87

Evaluation and comparison of four methods for plasma cortisol assay, by A. Clerico, M. G. Del Chicca, G. C. Zucchelli, F. Materazzi . . . . » 119

Reappraisal of serum creatinine as an index of the glomerular filtration rate (measured by external counting), by C. Bianchi, F. Cantraine, V. De Maertelaer, A. Coli, R. Palla and G. C. Fabrini . . . . . » 126

Utility of bottle phantom in calibration of whole body counting systems, by N. K. Gupta, M. M. Gupta and G. C. Bhola . . . . . » 132

Indications for ^{131}I albumin and ^{111}In-DTPA in isotope cisternography according to differences in the clearance from the spinal fluid, by A. Favino, G. L. Brambilla, C. Aprile, L. Princi . . . . . » 137

Radioimmunoassay of human chorionic somatomammotropin: evaluation and comparison of three kit-methods, by D. Giannessi, G. C. Zucchelli, A. Coli, S. Lazzari, M. Chiarelli, R. Russo, S. Serra . . . . . » 142

Radioiodine uptake test and response to treatment with methimazole in thyrotoxicosis, by M. Castiglioni, A. Coli, P. Roni, R. Bianchi, N. Riccioni . » 148

Radioassay of plasma cortisol: a comparison of immunological and competitive protein-binding methods using tritiated and ^{125}I-radioiodinated tracers, by R. Malvano, C. Gandolfi, P. Grosso, S. Orlandini, E. Rolleri . » 152

Measurement of urinary free cortisol by radioimmunoassay and its clinical applications, by L. Borsi, M. Mannelli, U. Barbieri, P. Giannotti, and M. Serio . . . . . » 160

In vivo distribution of ^{99m}Tc-labeled liposomes, by L. J. Anghileri, N. Firusian, K. P. Brucksch . . . . . » 165

Preparation and evaluation of tin-albumin millimicrospheres for labelling with ^{99m}Tc, by M. Villa, O. Pretti, R. Mosca, G. Plassio, R. Pasqualini . » 168

Localization of a virilizing adrenal carcinoma by ^{131}I-19-iodocholesterol scintigraphy, by A. Barbarino, L. Perrelli, E. Menini, L. De Marinis, and E. Pasargiklian . . . . . » 172

A simplified method of measuring free tri-iodothyronine in serum by combined equilibrium dialysis and gel sephadex extraction, by A. Clerico, G. C. Zucchelli, L. Fusani, D. Giannessi, G. Mariani, and R. Bianchi . » 176

Insulin kinetics after portal and peripheral injection of labelled insulin. Procedure to be used when no independent measure of liver plasma flow is available, by N. A. Lassen, and W. Perl . . . . . » 180

On the accumulation of ^{67}Ga in human breast milk: probable mechanism, by L. J. Anghileri, M. Heidbreder . . . . . » 179

SUBJECT INDEX

A

Acromegaly
plasma glucagon levels in —, 115

Adrenal —
— function studies with 19-^{131}I-cholesterol, 109
— percent uptake of ^{131}I-19-iodocholesterol, 117
— scintigraphy after phlebography, 103

Albumin
^{131}I — for isotope cisternography, 137
— macroaggregates by intracarotidal route in cerebral diseases, 95
^{99m}Tc — microspheres for leg microcirculation studies, 102
^{99m}Tc — minimicrospheres for hepatic scintigraphy, 109
^{99m}Tc — minicrosphere reticuloendothelial clearance, 100
tin — millimicrospheres for labelling with ^{99m}Tc, 168

Aldosterone
plasma — and plasma renin activity during infancy, 115
plasma and urine — radioimmunoassay by two methods, 107
— radioimmunoassay in crude plasma extracts, 137

^{241}Am
— transmission scanning for lung ventilation studies, 91

Angiocardiography
hemodynamic findings and isotope —, 89

Angiography
radionuclide — of the carotido-cerebral region, 92

B

Brain
— scanning in childhood, 95
— scintigraphy with ^{57}Co-Bleomycin, 113

C

^{14}C
— heteronium bromide tissue distribution, 116

cAMP
parathyroid hormone effect on urinary —, 97

Cholesterol
— turnover in elderly subjects, 92

Cineangiocardiography
— as compared to ^{113m}In washout curves and precordial counting in the evaluation of left ventricular ejection fraction and volumes, 65

^{57}Co
— Bleomycin as positive tracer in chest scanning, 110
— Bleomycin for brain scanning, 113
— poly-L-lysine accumulation by tumors, 79

^{60}Co
— irradiation and effect of tetrahydropterins on mithocondrial oxidative phosphorylation, 60

Computer-assisted scintigraphy
— for parathyroid adenomas, 23

Cortisol
— assay by competitive protein binding, 152
— binding capacity in human plasma, 1
comparison of four methods for plasma — assay, 119
— metabolic clearance rate, 113

urinary free — radioimmunoassay, 160

Creatinine

serum — as an index of glomerular filtration rate, 126

E

Extravascular

— lung water measurement by external counting, 81

F

^{59}Fe

— liquid scintillation counting for iron metabolism studies, 8

G

^{67}Ga

— accumulation in human breast milk, 179
— as positive tracer in chest scintigraphy, 110
— orbital scanning in malignant and inflammatory diseases, 98

Glomerular filtration rate

— by external counting as compared to serum creatinine levels, 126
— measurement by ^{131}I-Hippuran and ^{99m}Tc-DTPA, 102

Glucagon

— levels in acromegaly, 115

H

$^{197}HgCl_2$

— as positive tracer in chest scintigraphy, 110

I

^{123}I

— fibrinogen for deep veins thrombi imaging, 45

^{131}I

— albumin for isotope cisternography, 98, 137
19 — cholesterol for dynamic studies of the adrenal function, 109
— Hippuran urinary clearance as compared to ^{111}In-DTPA, 93
— Hypaque for glomerular filtration rate, 102
— iodocholesterol localization of a virilizing adrenal carcinoma, 172
— iodocholesterol percent uptake by the adrenal, 117
— treatment for thyroid cancer as related to TSH levels, 93

^{111}In

— DTPA for isotope cisternography, 98, 137
— DTPA urinary clearance as compared to ^{131}I-Hippuran, 93

^{113m}In

— washout curves and precordial counting to evaluate left ventricular ejection fraction and volumes, 65

Insulin

— kinetics after portal and peripheral injection, 180
— kinetics in chronic uremia and dialytic treatment, 106
labeled and unlabeled — mixture radioimmunoassay, 75
preparation of monoiodo —, 96
— solid-phase radioimmunoassay, 94

Iron metabolism

— by mathematical analysis of ^{59}Fe data, 8
— in patients with Hodgkin's disease treated with radiotherapy, 102

K

^{81m}Kr

— for regional lung ventilation studies, 99

L

Left ventricle

— contractility in patients with infarction, 89
— ejection fraction and volumes by external counting, 65

Liquid scintillation

— counting of ^{59}Fe for iron metabolism studies, 8

Lung

extravascular — water by external counting, 81
— perfusion as assessed by scintigraphy and angiography, 111
— perfusion scintigraphy with ^{99m}Tc-MAA in tumors, 117
regional — perfusion in massive pulmonary embolism, 104

— regional ventilation assessed by ^{81m}Kr, 99
— tumor diagnosis with labelled Bleomycin, 91
— ventilation studies with transmission scintigraphy (^{241}Am), 91

M

Mathematical analysis
— of insulin kinetics after portal and peripheral injection, 180
— of isotopic data for iron metabolism studies, 8

Metabolic clearance rate
— of cortisol, 113
— of hormones in non-steady state, 116
— of pancreatic hormones, 110
— of triiodothyronine in subjects with autonomous thyroid nodules, 90

Metabolism
— of sodium by ^{22}Na in hypertensive patients and during hemodialysis, 97

Mitochondria
— oxidative phosphorylation after X-rays or ^{60}Co irradiation, 60

^{99}Mo-^{99m}Tc
— generator system for medical use, 32

N

^{22}Na
— for sodium metabolism in hypertensive patients and during hemodialysis, 97

Nuclear fission
— produced ^{99m}Tc for medical use, 32

P

Parathyroid
— adenoma diagnosis by computer-assisted scintigraphy, 23, 115
— hormone effect on urinary cAMP, 97

Phantom
bottle — for calibration of whole body counting, 132

Plasma renin activity
— and aldosterone during infancy, 115

Prednisone
— acute effects on radiocalcium urinary excretion in man, 27

Prolactin
— radioimmunoassay in serum by two techniques, 110

R

Radiocalcium
acute effects of prednisone on urinary — in man, 27

Radioimmunoassay
— of aldosterone in crude plasma extracts, 37
— of gonadotrophins with a 6 hour method, 98
— of human chorionic somatomammotropin: comparison of three kit methods, 142
— of labeled and unlabeled insulin mixtures, 75
— of plasma and urine aldosterone by two methods, 107
— of plasma cortisol by tritiated and ^{125}I-cortisol, 152
— of prolactin in serum by two techniques, 110
— of serum bile acids in man, 112
— of urinary free cortisol, 160
solid-phase — of insulin, 94

Radiotherapy
— in patients with Hodgkin's disease, 102

Renography
regional — with ^{99m}Tc-DTPA, 99

S

Scintigraphy
brain — in childhood, 95
breast — with ^{99m}Tc-pertechnetate, 102
computer-assisted — of parathyroid adenomas, 115
— evaluation of acute myocardial infarction by ^{99m}Tc-pyrophosphate, 107, 108
hepatic — with ^{99m}Tc-albumin minimicrospheres, 109
— of the brain with ^{57}Co-Bleomycin, 113
— of the chest with $^{197}HgCl_2$, ^{67}Ga and ^{57}Co-Bleomycin as positive tracers, 110
— of the kidney with ^{99m}Tc(Sn) mannonate, 55
perfusional — with ^{99m}Tc-MAA in lung tumors, 117
photosequential — of the kidneys with ^{99m}Tc-DTPA, 101

Suppression test
short term triiodothyronine —, 49

^{99m}Tc
— albumin microspheres for leg microcirculation studies, 102
— albumin minimicrospheres for hepatic scintigraphy, 109
— albumin minimicrospheres reticuloendothelial clearance, 100
— DTPA for glomerular filtration rate determination, 90, 102
— DTPA for kidney photosequential scintigraphy, 101
— DTPA for regional renography, 99
— generator by nuclear fission, 32
— gluconate in the tumors of children, 106
in vivo distribution of — labeled liposomes, 165
— MAA in lung tumors, 117
— orbital scanning in malignant and inflammatory diseases, 98
— pertechnetate for nuclear dacryocystography, 84
— pyrophosphate for skeletal scintigraphy in patients with breast cancer, 92
— (Sn) mannonate in renal scintigraphy, 55
tin-albumin millimicrospheres to be labeled with —, 168

T

Thrombi
— imaging by ^{123}I-fibrinogen, 45

Thyroid
treatment of thyrotoxicosis with methimazole, 59
circadian variations in — autonomous nodules, 94

^{201}Tl
— chloride as positive tumor indicator, 114
— evaluation of regional myocardial blood flow in patients with variant angina, 108
— for regional myocardial blood flow determination, 105

Tetrahydropterin
— effect on mithocondria after X-rays or ^{60}Co irradiation, 60

Triiodothyronine
free — in serum by a new technique, 176
— metabolic clearance rate in subjects with autonomous thyroid nodules, 90
short term — suppression test, 49

TSH
— circadian variations in patients with autonomous thyroid nodules, 94
serum — levels and functioning metastases after therapeutic ^{131}I, 93

Tumor
— electrical charge effect in the accumulation of ^{57}Co-poly-L-lysine, 79
lung — and perfusion assessed by scintigraphy and pulmonary angiography, 111
— of children evaluated by ^{99m}Tc-gluconate, 106
— of the breast and skeletal scintigraphy with ^{99m}Tc-pyrophosphate, 92
— of the lung diagnosed by labelled Bleomycin, 91
— of the lung studied by ^{99m}Tc-MAA, 117
— of the thyroid after treatment with ^{131}I: TSH levels and functioning metastases, 93
^{201}Tl-chloride as a positive — indicator, 114

Turnover
— of cholesterol in elderly subjects, 92

V

Ventricular ejection fraction
left — by ^{113m}In washout curves and precordial counting, 65

Ventricular volumes
left — by ^{113m}In washout curves and precordial counting, 65

W

Whole body
— counting systems calibration by a bottle phantom, 132

X

X-rays
— irradiation of mice and rats; effects on mitochondria oxidative phosphorylation, 60

INDEX OF AUTHORS

Adam, W. E., 89
Agostini, A., 97
Agrimonti, F., 1, 100
Aldini, R., 112
Algranati, R., 93
Andretta, B., 115
Angeli, A., 1, 100
Anghileri, L. J., 79, 165, 179
Antonioli, G., 89
Aprile, C., 98, 137
Argenti, G., 93, 101
Armanini, D., 103, 107

Baggioni, G. F., 89
Bagni, B., 89, 102
Balbarini, A., 65
Balbi, L., 118
Balestra, V., 49
Balocchi, R., 65
Banfi, F., 23, 115
Barbara, L., 112
Barbarino, A., 172
Barbieri, U., 160
Barosi, G., 8, 89
Barsotti, A., 65
Battini, L., 75
Bazzicalupo, L., 114
Bellone, E., 118
Berta, L., 1, 100
Berzuini, C., 89
Betti, E., 114
Bhola, G. C., 132
Bianchi, C., 90, 126
Bianchi, R., 90, 94, 95, 148, 176
Biagini, A., 105
Biasia, S., 97
Biassoni, P., 49
Bignamini, A., 49
Bisi, G., 91, 92
Boffetta, M., 117
Bona, C., 106
Bonadio, M., 90
Boncinelli, L., 92
Bonomo, L., 172
Borsato, N., 99, 100, 109
Borsi, L., 160
Brambilla, G. L., 98, 137
Brancati, A., 92
Breccia, A., 112
Brettoni, M., 91
Brocchi, A., 94
Brossa, C., 116
Bruckusch, K. P., 165
Bruni, B., 116
Boni, F., 93, 101
Busnardo, B., 93, 101

Camuzzini, G., 93
Caniggia, A., 27
Cantraine, F., 126
Cappelli, G., 94
Cappellini, M., 92
Carratù, L., 114
Carpi, A., 90, 94
Carteri, A., 95, 113
Casara, D., 93
Castiglioni, M., 95, 148
Cattano, G., 97
Cavalot, A., 98
Cazzola, M., 8, 89
Cecchetti, P., 96, 106
Cenzi, G. F., 114
Chaundhuri, T. K., 84
Chiarelli, M., 142
Ciatto, S., 92
Cimitan, M., 93, 101
Cionini, L., 102
Citti, L., 75, 96, 106
Clerico, A., 119, 176
Cocozza, P., 106
Coli, A., 90, 95, 126, 142, 148
Colli Franzone, P., 8, 89
Colombetti, L. G., 45, 55
Corso, S., 107
Cugini, P., 113

D'Alberto, M., 116
D'Alessandro, A., 92
Da Tos, A., 97
de Angelis, L., 116
De Filippi, P. G., 117
Del Chicca, M. G., 119
De Maertelaer, V., 126
De Marinis, L., 172
De Toni, 97
Di Lascio, G., 113
Di Maria, G., 97
Di Mario, P., 115
Di Pietrantonj, F., 97
Distante, A., 105
Donadio, C., 90
D'Onofrio, M., 98, 117
Dotti, C., 98

Fabrini, G. C., 126
Fabrizzi, G. C., 97
Falluca, F., 115
Faravelli, B., 106
Favino, A., 98, 137
Fazio, F., 81, 99, 111
Feggi, L. M., 102
Ferlin, G., 99, 100, 109
Ferrannini, E., 75, 96, 106, 110
Ferrini, O., 49
Festi, D., 112
Figus, S., 90
Filippi, G., 98
Firusian, N., 165
Fittante, G., 118
Fornai, E., 113
Frajra, R., 1, 100
Franchini, R., 98
Frazzoli, F., 109
Fusani, L., 176

Gaidano, G., 1, 100
Galbiati, A., 90
Ganatra, R. D., 32
Gandolfi, C., 37, 152
Garibaldi, L. R., 49
Geffers, H., 89
Gennari, C., 27
Ghemi, F., 117
Giannessi, D., 37, 142, 176
Giannotti, P., 37, 160
Gion, M., 107
Girelli, M. E., 93, 101
Giuliano, V., 91
Giuntini, C., 104, 108, 111, 113

Glassier, V., 91
Glenn, H. J., 32
Golfieri, G., 117
Gracis, G. P., 98
Grignolo, G., 98
Grosso, P., 37, 152
Gupta, M. M., 132
Gupta, N. K., 132
Guzzardi, R., 101, 105

Heidbreder, M., 79, 179
Hughes, J. M. B., 81

Indovina, I., 114

Jadhav, A. V., 32
Jones, H., 81
Jones, T., 81, 99

Kocovskà, A., 60
Kraml, J., 60

L'Abbate, A., 105
La Cava, G., 101
Landi, G., 102
Lassen, N. A., 180
Lazzari, S., 142
Lazzi, C., 93, 101
Legnaioli, M., 102
Levanti, C., 94

Macri, C., 103
Magrini, A., 109
Maini, C. L., 110
Malavasi, F., 89
Malgieri, F., 114
Malvano, R., 37, 102, 152
Manconi, R., 113
Mannelli, M., 160
Mantero, F., 103, 107, 115
Mariani, G., 176
Mariani, M., 65
Marini, C., 104, 108, 111, 113
Mariotti, R., 65
Martignoni, R., 91
Martini-Mauri, M., 106
Maseri, A., 105, 108
Masi, R., 91, 92, 101
Masini, S., 90
Mathes, R., 79
Mazzella, G., 112
Mennonna, P., 92
Menini, E., 172
Menzinger, G., 115
Merighi, L., 118
Mioli, V., 97
Mistretta, A., 105
Morandi, S., 8, 89
Morello, P., 117
Mosca, R., 168
Motta, C., 116
Mussa, G. C., 106
Muto, P., 114
Muttini, P., 106

Navalesi, R., 75, 96, 106, 110
Nori, A., 92
Noronha, O. P. D., 32
Nosenzo, M., 106

Opocher, G., 107
Orlandini, S., 152

Paci, A., 96
Pacchiarotti, P., 97
Paladini, S., 110
Palla, A., 104, 111, 113
Palla, R., 90, 126
Palmiero, R., 118
Palumbo, R., 107
Parodi, O., 108
Pasargiklian, E., 172
Pasqualini, R., 168
Paterno, E., 102
Pavoni, P., 109
Perelli, R., 99, 100, 109
Perelli, L., 172
Perl, W., 180
Perugini, S., 8, 89
Pesciullesi, A., 91, 92, 101
Pessano, B., 101
Pianca, B., 97
Pieroni, C., 110
Pigorini, F., 110
Pilo, A., 90, 106, 110
Pistelli, G., 111
Pistolesi, M., 104, 111
Plassio, G., 168
Polloni, R., 117
Pretti, O., 168
Princi, N., 98, 137
Pupi, A., 92, 101

Ragni, G., 91
Ramaniah, M. V., 32
Rhodes, G. C., 81
Riccioni, N., 95, 148
Riva, P., 102
Rizzello, A., 106
Rizzoni, G. F., 115
Roda, A., 112
Roda, E., 112
Rolleri, E., 152
Roni, P., 95, 148
Rota, G., 100
Russo, R., 142

Salar, G., 95, 113
Salvatore, M., 114
Sanguineti, M., 114
Sama, C., 112
Santolicandro, A., 104, 111, 113
Sbampato, M., 110
Scaffidi, V., 114
Scavo, D., 113
Sclavo, M., 118
Scopinaro, G., 114
Scuccimarra, A., 95
Segre, G., 116
Semprebene, L., 110
Serio, M., 160
Serra, S., 142
Severi, S., 108
Sewatkar, A. B., 32
Sigel H., 89
Sivaramakrishnan, C. K., 32
Slavìk, K., 60
Solfanelli, S., 113
Solinas, P., 107
Sonino, N., 115
Spadoni, M., 110
Spinelli, F., 23, 115
Stefanelli, M., 8, 89

Tamburrano, G., 115
Tamburrano, S., 115
Tommasi, S., 110
Toni, M. G., 90, 94
Toraldo, P., 107
Tortore, P., 93
Toti, A., 102
Tramonti, G., 90
Traversa, 116
Tuoni, M., 106
Turco, G. L., 116, 117

Vallerini, N., 102
Valli, G., 65
Vancini, B., 117
Vanìckovà, V., 60
Vattimo, A., 27
Vertua, R., 116
Viganotti, C., 8, 89
Villa, M., 168

Zampieri, P., 95, 113
Zardini, P., 118
Zucchelli, G. C., 90, 94, 119, 142, 176